

In the claims:

Claim 1. **(Currently amended)** A cardiovascular imaging agent comprising a radionuclide, said radionuclide being chemically bonded to a targeting moiety comprising a component of a process involved in plaque formation, wherein the targeting moiety is fibrin, thrombin, fibrinogen, factor VIII, or factor IX a ~~component of clotting~~, wherein said radionuclide is a positron emitting radionuclide selected from the following: ^{18}F , ^{68}Ga , ^{62}Cu , or radioactive isotopes of iodine.

Claims 2-7. **(Canceled)**

Claim 8. **(Previously presented)** The agent of claim 1, wherein said plaque is an atherosclerotic forming plaque.

Claim 9. **(Currently amended)** A method of imaging cardiovascular plaque formation in a mammal, comprising administering to the mammal a cardiovascular imaging agent having a radionuclide, said radionuclide being chemically bonded to a targeting moiety comprising a component of a process involved in plaque formation, wherein the targeting moiety is fibrin, thrombin, fibrinogen, factor VIII, or factor IX a ~~component of clotting cascades~~, wherein said radionuclide is a positron emitting radionuclide selected from the following: ^{18}F , ^{68}Ga , ^{62}Cu , or radioactive isotopes of iodine.

Claim 10. **(Original)** The method of claim 9, wherein the method detects a cardiovascular lesion in a mammal, said method comprising the steps of administering to the mammal said imaging agent, detecting the spatial distribution of said agent accumulated in the mammal's cardiovascular system, wherein a detected accumulation of said agent in a region which is different from the detected accumulation of said agent in other regions is indicative of a lesion.

Claim 11. **(Previously presented)** The method of claim 10, wherein said cardiovascular lesion is an atherosclerotic forming lesion.

Claim 12. **(Currently amended)** A kit for cardiovascular imaging, comprising a supply of the imaging agent or a precursor of the imaging agent having a radionuclide, said radionuclide being chemically bonded to a targeting moiety comprising a component of a process involved in plaque formation, wherein the targeting moiety is fibrin, thrombin, fibrinogen, factor VIII, or factor IX a ~~component of clotting cascades~~, wherein said radionuclide is a positron

emitting radionuclide selected from the following: ^{18}F , ^{68}Ga , ^{62}Cu , or radioactive isotopes of iodine.

Claims 13-18. **(Canceled)**